

Name: _____

Date: 3-26-09

VARIATIONS UNIT TEST

DIRECTIONS: Match the following terms with its definition. Write the letter of the correct answer on the line in front of the numeral. (1 point each)

Example :

Z Mascot for Walkersville

Z. Lion

F 1. Adaptation

~~A~~ The smallest particle of an element

+ 2. Biodiversity

~~B~~ First made by Mendeleev to arrange elements by their properties

J 3. Evolution

~~C~~ Chart to determine the offspring for a cross between two parents

A 4. Atom

~~D~~ Cell division

I 5. Physical change

~~E~~ Trait that helps an organism survive

b 6. Periodic Table

~~F~~ Father of genetics

g 7. Compound

~~G~~ Substance made of 2 or more elements that can be only separated chemically

C 8. Punnett Square

H. Variety of living organisms

J 9. Mitosis

I. Occurs when matter undergoes a change in size or shape

F 10. Gregor Mendel

~~J~~ Gradual change in a species over a period of time

Multiple Choice (1 point each)

d 1. Which one of the following is CORRECT? In DNA,

- a. Adenine always pairs with Cytosine
- b. Adenine always pairs with Guanine
- c. Adenine always pairs with Adenine
- d. Adenine always pairs with Thymine

c 2. What is survival of the Fittest?

- a. A change that occurs over time
- b. Traits passed from one parent to offspring
- c. The strongest in a species will survive
- d. A set of letters for a given trait

c 3. What are the three types of rock in the rock cycle?

- a. Granite, guanine, and quartz
- b. Magma, lava, and sedimentary
- c. Igneous, metamorphic, and sedimentary
- d. Igneous, granite, and sandstone

c 4. How many chromosomes do humans have?

- a. 84
- b. 46
- c. 23
- d. 12

2 5. Which one shows a heterozygous trait?

- a. Aa
- b. AA
- c. aa
- d. Az

C 6. NaCl (salt) is an example of

a. an atom

C a compound

b. an element

d. a mixture

a 7. Which of the following is a genotype?

a. Blue eyes

c. Dd

b. G

d. Having dimples

A 9. Which statement is true?

a. DNA is made of 4 bases, a sugar molecule, and a phosphate molecule.

b. DNA is only found in animal cells.

c. DNA is a single helix that looks like a hexagon.

d. DNA can not be used to identify a missing person.

C 10. Which statement is true?

a. Antibiotics should be used to treat viruses.

b. Antibiotics should be used to treat bacterial infections.

C Antibiotics should not be taken as directed by a doctor.

d. Antibiotics can destroy "super bugs" very easily.

Directions: Complete the table below by filling in all the blanks.

Note: Be careful determining the number of neutrons.

Use proper rounding to determine Atomic Mass. (2 points per blank)

Element	Symbol	Atomic #	Protons	Neutrons	Electrons	Atomic Mass
Nitrogen	N	7	7	7	7	14
Silver	Ag	47	47	60	47	107
Tin	Sn	50	50	62	50	118
Titanium	Ti	22	22	26	22	48

Short Answer:

1. Name the three subatomic particles that make up every atom and write the electrical charge for each one. (6 points) Note: There are 2 parts for the answer.

The three subatomic particles that make up the atom are Proton, Neutron, Electron.

Proton	Neutron	Electron
Positive	Negative	No charge

Name _____

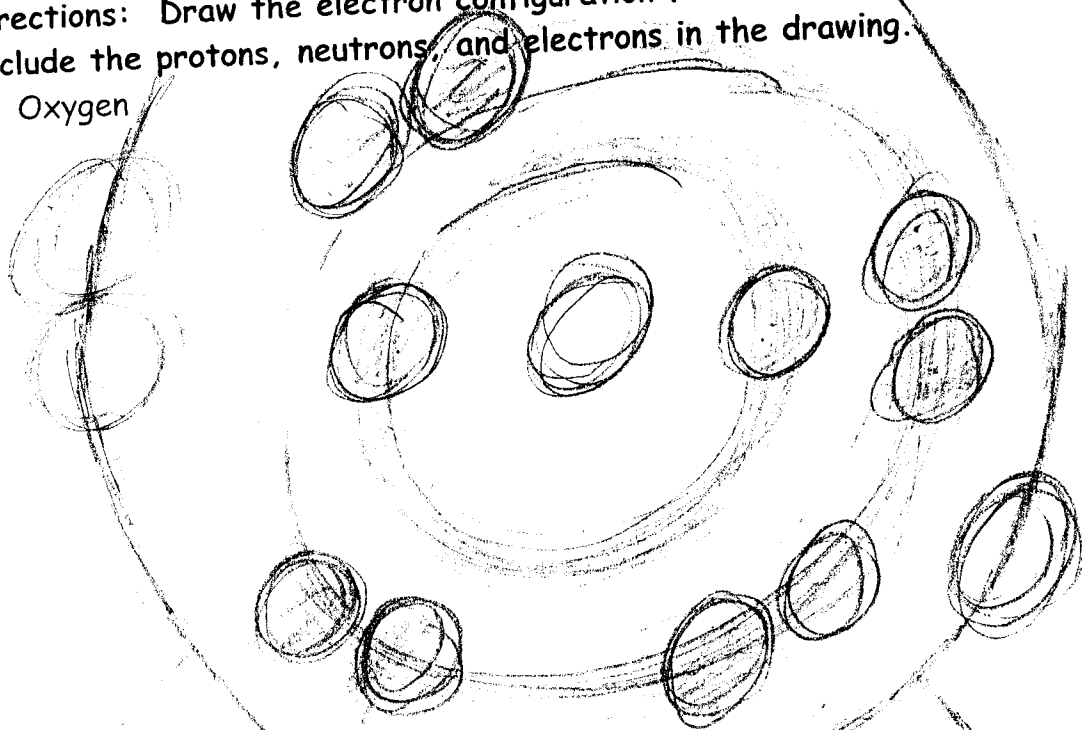
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(1 point) Up to how many electrons go into the first 3 shells?

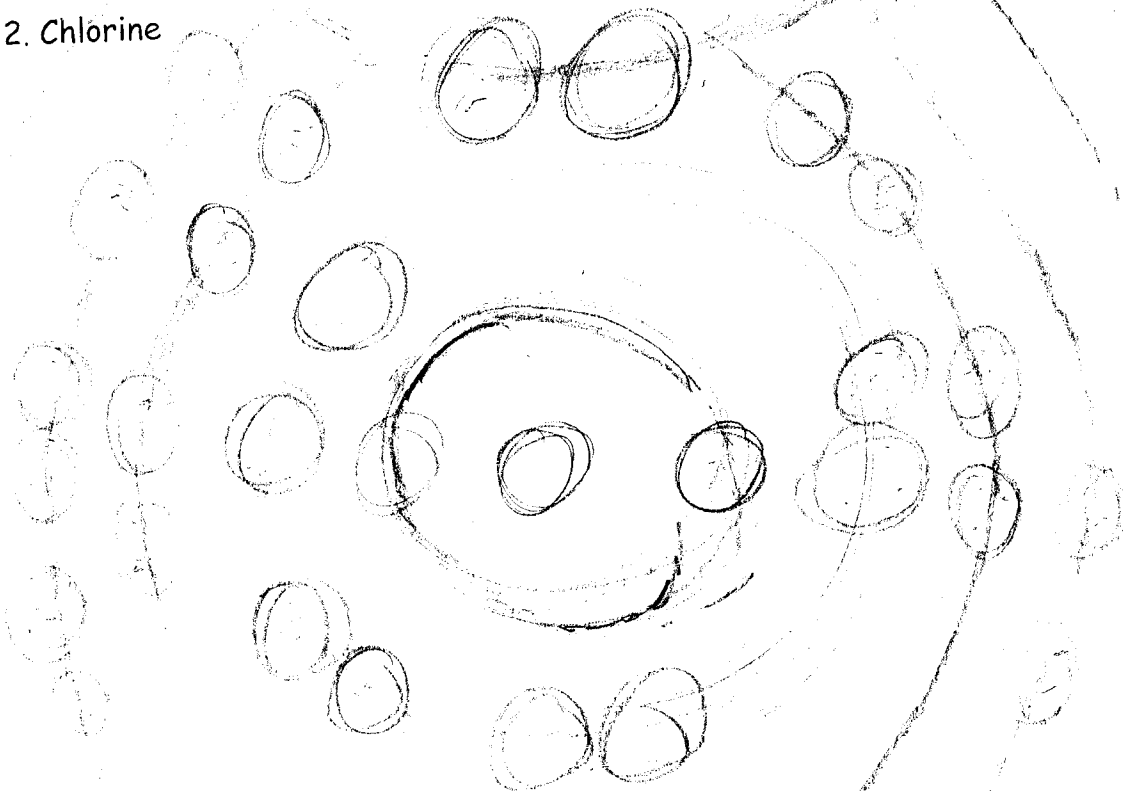
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Directions: Draw the electron configuration for each element. (5 points each)
Include the protons, neutrons, and electrons in the drawing.

1. Oxygen



2. Chlorine



Directions: Mark the following as a chemical (C) or physical (P) change. (1 point each)

1. ice cube melting P
2. vinegar mixed with baking soda C
3. Ivory soap heated in a microwave P
4. bicycle chain rusting C
5. burnt paper C

Directions: Set up Punnett Squares. (5 points each)

1. In dogs, erect ears (E) are dominant over droopy ears (e). What are the results if two heterozygous dogs have a litter of puppies?

Parents' genotypes Ee x Ee

E

e

<u>E</u>	<u>EE</u>	<u>Ee</u>
<u>e</u>	<u>Ee</u>	<u>ee</u>

What are the chances of a dog with erect ears?
3 out of 4 or 75 %

What are the chances of a dog with droopy ears?
1 out of 4 or 25 %

2. What is the difference between an element, a compound, and a mixture?
Give an example of each one. (6 points)

The difference between element and compound
and mixture is compound can get substance
element can.

3. Compare the terms **DOMINANT** and **RECESSIVE**.
Pick a trait and give an example of each. (6 points)

A dominant trait is the trait that you
definitely get. like blue eyes.

A recessive is when you almost get it

2. In chickens, black eye color (B) is dominant to blue eye color. If a purebred black-eyed rooster mated with a purebred blue-eyed hen, what is most likely for the next generation's eye color characteristics?

Parents' genotypes BB x bb

B

B

<u>1</u>	BB	Bb
<u>2</u>	bB	bb

What are the chances of the offspring having black eyes?

2 out of 4 or 50 %

What are the chances of the offspring having blue eyes?

2 out of 4 or 50 %

Retention

I like when we played the game

because it was fun and we reviewed a

little more time